MDC Resource Science

Assessing Long-term Coded Wire Tag Retention in Hatchery-reared Paddlefish

Science Notes

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By Kevin Sullivan, Trish Yasger, Jane Cotton, Zach Ford, and Greg Pitchford

Introduction

The Mississippi Interstate Cooperative Resource Association (MICRA) mandated that all hatchery-reared Paddlefish must be tagged with binary-coded wire tags (CWT) before stocking throughout the Mississippi River basin. Twenty-two (22) states participated in the tagging, but numerous states have expressed concern about CWT retention. Missouri Department of Conservation (MDC) staff documented a very low percentage of CWT in Paddlefish at Bagnell Dam in 2002 while stocking records indicated this proportion should have been much higher, leading to the question of how well coded wire tags were retained. Recent MDC Paddlefish sampling efforts suggest a similar concern at Harry S. Truman Reservoir.

Goal:
Estimate the proportion of tagged Paddlefish stocked in MDC managed ponds that retain binary coded-wire tags (CWT) after 10 years.

Project Details

This management evaluation was designed to inform some of the uncertainties about long-term CWT loss. Advanced fingerling Paddlefish (10-18 inches TL) were injected with a CWT in the tip of the rostrum and stocked in Perkins Pond (5 ac.) on Blind Pony CA with 25 Paddlefish (5/ac.) in the fall of 2005. Ponds at Bunch Hollow CA (7 ac.), Fountain Grove CA (Jo Shelby Lake - 31 ac.), Poosey CA (two 10 ac. ponds), and Ray County Lake (25 ac.) were stocked with tagged Paddlefish at similar stocking rates (5 fish/ac.) in the fall of 2007.

Our goal is to establish tag retention rates at 3.5, 5.5, 7.5, and 10.5 years post-tagging for these stocked fish, and apply that retention rate to reservoir Paddlefish. Recaptured Paddlefish were examined with a handheld wand detector to determine the presence of CWTs and measured from eye to fork of the tail.

Management Findings:
Fifty-eight (58) tagged Paddlefish have been recaptured since 2009. Forty-two (42) were caught 3.5 years after tagging. Sixteen (16) were caught 5.5 years after tagging, and to date, all 58 Paddlefish (100%) have retained their CWTs (Table 1).

Figure 1. Processing a recaptured Paddlefish at Pike's Lake in 2011 (3.5 years post-tagging).

Table 1. Coded wire tag retention rates (number recaptured) of Paddlefish from 2009-2013. The mean ± SD eye-to-fork length of Paddlefish was 29.1 ± 1.9 in and 34.8 ± 2.0 in at 3.5 years and 5.5 years post-tagging, respectively.

MDC Pond	3.5 Year CWT Retention	5.5 Year CWT Retention
Perkins Pond	100% (22)	NA
Pike's Lake (Poosey)	100% (5)	NA
Pond #2 (Poosey)	100% (15)	NA
Ray County Lake	NA	100% (16)
Jo Shelby Lake	NA	NA
Bunch Hollow Pond	NA	NA
Totals	**100% (42)**	**100% (16)**

Management Implications

Evaluating long-term retention rates of CWT will help MDC determine if natural reproduction of Paddlefish might be occurring in Lake of the Ozarks, Truman Reservoir, and Table Rock Lake where tagged Paddlefish are stocked annually. Retention rates will continue to be monitored through 10.5 years post-tagging when all sampled Paddlefish will be harvested.

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Missouri Department of Conservation
Grasslands Systems Field Station
P.O. Box 368
Clinton, MO 64735
660.885.8179 x224
Kevin.Sullivan@mdc.mo.gov

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